

**IN THE CLAIMS:**

✓ ✓ ✓  
Please cancel claims 6 and 7.

Please substitute the following claims for the pending claims with the same claim numbers.

*A1 Cont A3*  
~~○ 3. (Amended) The method of claim 1, wherein the plurality of initial detection sequences comprises one or more pairs of initial detection sequences, wherein each pair of initial detection sequences comprises a first initial detection sequence and a second initial detection sequence, said second initial detection sequence being a logical inverse of said first initial detection sequence.~~

~~○ 4. (Amended) The method of claim 1, wherein the plurality of unique words comprises one or more pairs of unique words, wherein each pair of unique words comprises a first unique word and a second unique word, said second unique word being a logical inverse of said first unique word.~~

↓ ↓ ↓  
Please add new claims 9 - 22 as follows:

*A4*  
9. The method of claim 1, wherein transmitting the preamble synchronization sequence includes using the preamble synchronization sequence to binary phase shift key (BPSK) modulate a carrier signal.

10. The method of claim 1, wherein transmitting the preamble synchronization sequence includes using the preamble synchronization sequence to direct sequence spread spectrum (DSSS) modulate a carrier signal.

11. The method of claim 1, wherein detecting the one initial detection sequence includes:

generating, at the receiver, an initial signal detection peak in response to the preamble synchronization sequence; and

determining a polarity of the initial signal detection peak to receive one of said one or more first preamble information bits.

12. The transmitter of claim 8, comprising:  
a differential encoder encoding the preamble synchronization sequence; and  
a modulator modulating the differentially encoded preamble synchronization sequence.

13. The transmitter of claim 8, wherein the transmitter operates in both a binary phase shift keying (BPSK) and a direct sequence spread spectrum (DSSS) mode.

14. A communication receiver receiving a preamble synchronization sequence comprising an initial detection sequence and a unique code word, said receiver comprising:

means for detecting the initial detection sequence to produce therefrom one or more first preamble information bits; and

means for detecting the unique word to produce therefrom one or more second preamble information bits.

15. The communication receiver of claim 14, wherein the means for detecting the initial detection sequence comprises:

a delay line integrator receiving the initial detection sequence and producing therefrom an initial signal detection peak; and

a threshold detector receiving the initial signal detection peak and producing therefrom the one or more first preamble information bits.

16. The communication receiver of claim 15, wherein the threshold detector determines a polarity of the initial signal detection peak and provides the one first preamble information bit corresponding to the polarity of the initial signal detection peak.

17. The communication receiver of claim 15, wherein the threshold detector produces an initial detection output signal indicating a timing of the initial detection sequence.

18. The communication receiver of claim 17, further including an initial detection gate enabling the initial detection output signal during time periods when the receiver is seeking to receive a burst-type transmission including the preamble synchronization sequence, and disabling the initial detection output signal during time periods when the receiver is not seeking to receive a burst-type transmission including the preamble synchronization sequence.

19. The communication receiver of claim 14, wherein the means for detecting the unique word includes a matched filter matched to the unique word.

20. The communication receiver of claim 19, wherein the matched filter is a tapped delay line producing a correlation peak when the unique word is detected.

21. The communication receiver of claim 20, wherein the means for detecting the unique word determines a polarity of the correlation peak and provides the one second preamble information bit corresponding to the polarity of the correlation peak.